

Title (en)
OPTIMIZED SAFETY ARCHITECTURE IN A ROBOT

Title (de)
OPTIMIERTE SICHERHEITSARCHITEKTUR IN EINEM ROBOTER

Title (fr)
ARCHITECTURE DE SÉCURITÉ OPTIMISÉE DANS UN ROBOT

Publication
EP 4219092 A1 20230802 (EN)

Application
EP 22154047 A 20220128

Priority
EP 22154047 A 20220128

Abstract (en)
The present disclosure relates to a joint assembly and a robot comprising a joint assembly, the joint assembly comprising: a joint housing, a first motor connecting the joint housing with a first link and the first motor being adapted to rotate the first link relative to the joint housing around a first axis, a second motor connecting the joint housing with a second link and the second motor being adapted to rotate the second link relative to the joint housing around a second axis non-parallel with the first axis, circuitry accommodated in the joint housing and comprising a first processing unit and a second processing unit, the first processing unit being adapted to control the first motor and the second processing unit being adapted to control the second motor. The first processing unit receives, from a first primary sensor, a first primary sensor signal indicative of a first motion characteristic of the first link relative to the joint housing and calculates the first motion characteristic of the first link relative to the joint housing at least based on the first primary sensor signal, and the second processing unit receives, from a first secondary sensor, a first secondary sensor signal indicative of the first motion characteristic of the first link relative to the joint housing and calculates the first motion characteristic of the first link relative to the joint housing at least based on the first secondary sensor signal.

IPC 8 full level
B25J 13/08 (2006.01); **B25J 9/16** (2006.01); **B25J 17/00** (2006.01); **B25J 17/02** (2006.01); **B25J 19/06** (2006.01); **G05B 19/414** (2006.01)

CPC (source: EP)
B25J 9/161 (2013.01); **B25J 9/1674** (2013.01); **B25J 13/08** (2013.01); **B25J 17/02** (2013.01); **B25J 17/0258** (2013.01); **B25J 19/06** (2013.01); **G05B 19/4141** (2013.01); **G05B 2219/37297** (2013.01); **G05B 2219/42318** (2013.01)

Citation (search report)
• [A] CN 113661033 A 20211116 - UNIVERSAL ROBOTS AS & US 2022184810 A1 20220616 - BECK ANDERS BILLESØ [DK], et al
• [A] WO 2021249379 A1 20211216 - SUZHOU ELITE ROBOTICS CO LTD [CN]
• [A] US 2014067124 A1 20140306 - WILLIAMSON MATTHEW MURRAY [US], et al

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4219092 A1 20230802; WO 2023143810 A1 20230803; WO 2023143944 A1 20230803

DOCDB simple family (application)
EP 22154047 A 20220128; EP 2022086566 W 20221219; EP 2023050838 W 20230116